

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VI EXAMINATION – WINTER 2025

Subject Code:3162310

Date:21-11-2025

Subject Name:Plastics Packaging Technology

Time:02:30 PM TO 05:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Define[any3]: Packaging, Ecolabel, shrink wrapping, retort packaging, Skin Packaging	03
	(b) Differentiate between Primary, Secondary and Tertiary Packaging giving examples from various industries.	04
	(c) Discuss in detail, functions of Package with examples.	07
Q.2	(a) Discuss role of colour as a sales medium.	03
	(b) Discuss MAP v/s. CAP with examples.	04
	(c) Discuss in detail, hazards in distribution.	07
	<b>OR</b>	
	(c) Discuss in detail, features of Effective Design.	07
Q.3	(a) What is Shelf life? Why is this important?	03
	(b) What is Rigid Packaging? Which industries use this kind of packaging? Give examples.	04
	(c) Highlight tests done for plastic packages and discuss in detail drop test.	07
	<b>OR</b>	
Q.3	(a) What is aseptic packaging? Discuss with examples	03
	(b) A packet of biscuits gained 0.25 gms of water in the first day of exposure and 20 gms altogether when left opened. At what time would it have gained exactly 5 gms of moisture[ the spoilage value ] ?	04
	(c) Answer the following:	07
	1. LLDPE film needs much higher energy to get punctured when compared to LDPE. True/False	
	2. PP must be made into a film by a process that cools the films rapidly or it will be brittle. True/False.	
	3. Bursting strength is related to _____ of material. (Hardness/Toughness).	
	4. _____ Packing modifies the atmosphere surrounding the food by removing oxygen and extending the shelf life.	

5. Containers for milk, detergent and shampoo are made from which material? PVC/HDPE.
6. Shelf Life is defined as \_\_\_\_\_
7. For Pharmaceutical drugs like tablets \_\_\_\_\_ packaging is most preferred? Skin/blister

- Q.4** (a) Discuss blister v/s. skin packaging **03**  
 (b) Discuss advantages and disadvantages of Plastics in Packaging **04**  
 (c) Discuss Cushion Packaging in detail. **07**

**OR**

- Q.4** (a) Give details of metalized films with applications **03**  
 (b) What are pillow pouches, standup pouches, four side seal pouches and retort pouches **04**  
 (c) Discuss Migrations tests in detail. **07**

- Q.5** (a) Which category of people need packaging? **03**  
 (b) Discuss common forms of plastic films **04**  
 (c) What are form, fill and seal machines? Discuss both vertical and horizontal types with applications. **07**

**OR**

- Q.5** (a) A ready to eat vegetable is to be packed with minimum shelf life of 6 months. Which kind of packaging is most suitable. And why? [please note that this package should occupy minimum space as it is to be carried overseas] **03**  
 (b) A toothpaste is to be sent for exports. Discuss all types of Packaging which are needed both for air cargo and sea cargo **04**  
 (c) Discuss advantages and limitations of different wrapping methods. **07**